CO2 and Climate from the Tau Register

Atmospheric CO2 -- Temperature -- Forcing: All {2,3,5,pi} Lattice Nodes

Stephen Daubney | The Daubney Foundation | Rev 2 | 2026

Abstract

The Universal Force of Time (UFOT) demonstrates that atmospheric CO2 concentration, infrared absorption wavelength, Earth equilibrium temperature, and climate forcing coefficient are all co-resonant nodes of the {2,3,5,pi} T-lattice. The CO2 bending mode at 15,000 nm = 3x5x10^3 is an exact {2,3,5} lattice node. Earth equilibrium temperature T_E = 288 K = 2^5x3^2 is a pure {2,3} node. Pre-industrial CO2 at 280 ppm = 2^3x5x7 is the prime-7 boundary adjacent to the {2,3,5} smooth zone. Present-day ~415 ppm exceeds the lattice ceiling 2^7xpi^2/5 ~ 412 ppm, constituting measurable dST not equal to 0 at the planetary register. Six formal propositions (P-CO2-1 through P-CO2-6) are established.

Tau (T) is the living fabric of time itself -- the sole substance of which all physical reality is composed. Every particle, force, wavelength, and conscious experience is a structured configuration of T-flow. There is no gravity, no electromagnetic force, no strong nuclear force as separate entities: all are registers of the single T-field operating across dimensional levels. The conservation law dST=0 governs all change: T is never created or destroyed, only redistributed.

1. T-Field Perspective on Atmospheric CO2

Stand in front of a fire and you feel warmth -- the infrared radiation that CO2 traps in Earth's atmosphere is the same thing, writ planetary. Within UFOT, that trapping is not accidental. The wavelength at which CO2 intercepts outgoing heat -- 15,000 nm -- is 3 x 5 x 10^3 nm: a pure {2,3,5} lattice node. The molecule and the planet are not a random pairing. They are co-resonant T-registers.

Every CO2 climate quantity -- bending mode wavelength, triple-point temperature, equilibrium temperature, pre-industrial concentration, forcing coefficient -- derives from the same {2,3,5,pi} lattice. This paper shows the chain.

2. CO2 Infrared Absorption

CO2 absorbs infrared radiation primarily at three spectral regions. The dominant bending mode is the anchor node:

T_lambda(bend) = 15,000 nm = 3 x 5 x 10^3 nm (pure {2,3,5}, exact)

Converting to wavenumber: 10^7 / 15000 = 666.667 cm^-1. NIST-observed: 667.4 cm^-1. Deviation: 1,097 ppm -- veil offset between degree domain and radian domain. The asymmetric stretch at 2349 cm^-1 encodes the register boundary (2349 = 3x3^3x29, prime-29 signals the D=-1 seam crossing).

3. Earth Equilibrium Temperature

T_E = 288 K = 2^5 x 3^2 (pure {2,3} lattice node, exact)

Earth equilibrates at precisely the lattice temperature that satisfies the T-register boundary conditions of the D=0 dimensional shell. The CO2 triple point at 216.55 K lies within 0.25% of 216 = 2^3 x 3^3 -- a perfect cubic lattice node:

T_CO2(triple) ~ 216 K = 2^3 x 3^3 (phase boundary = lattice crossing)

T_E / T_CO2(triple) = 288 / 216 = 4/3 (pure {2,3} register step)

The solar surface temperature T_sun = 5760 K = 2^7 x 3^2 x 5 completes the celestial register chain: T_sun / T_E = 5760 / 288 = 20 = 2^2 x 5 -- exact {2,5} step.

4. Climate Forcing as T-Register Tension

The climate forcing formula takes the form:

DT_E = (5.35 / ln 2) x ln(C / C_0) [W m^-2 per doubling]

The coefficient 5.35 ~ 28/5 = 2^2 x 7 / 5. The first entry of prime-7 into the forcing coefficient marks the precise T-register boundary where {2,3,5} confinement yields to prime-7 tension. Forcing is T-register displacement.

Pre-industrial CO2 at 280 ppm = 2^3 x 5 x 7 -- the prime-7 boundary node. The Holocene climate stability (~10,000 years near 280 ppm) reflects the stability of this prime-7-bounded T-register node.

The present atmospheric lattice ceiling:

2^7 x pi^2 / 5 = 128 x 9.8696 / 5 = 252.66 x ... ~ 412.3 ppm

Present-day ~415 ppm exceeds this ceiling. In UFOT terms this constitutes measurable dST not equal to 0 at the planetary scale -- a departure from the T-conservation law.

5. The CO2 Climate Identity Chain

3x5x10^3 nm --> CO2 bending mode [P-CO2-1]

2^3x3^3 = 216 K --> CO2 triple point [P-CO2-3]

216 x (4/3) = 288 K = 2^5x3^2 --> T_E [P-CO2-2]

288 K x 20 = 5760 K = 2^7x3^2x5 --> T_sun

2^3x5x7 = 280 ppm --> pre-industrial stability [P-CO2-4]

2^7xpi^2/5 ~ 412 ppm --> lattice ceiling [P-CO2-6]

28/5 = forcing coefficient --> prime-7 tension [P-CO2-5]

Every node in this chain is an exact {2,3,5,pi} lattice identity or a well-defined prime-boundary crossing. CO2 concentration, temperature, phase boundaries, and forcing gradients are all dimensional register manifestations of a single coherent lattice.

6. Propositions P-CO2-1 through P-CO2-6

P-CO2-1: CO2 Absorption at {2,3,5} Node

CO2 bending mode at 15,000 nm = 3x5x10^3 -- pure {2,3,5} T-node (exact). The bending vibrational mode of CO2 is the T-lattice enforcing molecular register at the D=0 boundary. Not an empirical property -- a lattice consequence.

P-CO2-2: T_E = 288 K = 2^5 x 3^2

Earth global mean equilibrium temperature is a pure {2,3} lattice node. Planetary equilibration is T-register lock-in, not a balance of external fluxes.

P-CO2-3: CO2 Triple Point ~ 216 K = 2^3 x 3^3

The solid-liquid-gas phase boundary of CO2 is an exact {2,3} lattice crossing (2,550 ppm from integer node). Ratio T_E/T_triple = 288/216 = 4/3 = 2^2/3 -- pure {2,3} register step.

P-CO2-4: Pre-industrial CO2 = 280 ppm = 2^3 x 5 x 7

Adjacent prime-7 boundary node. Holocene atmospheric stability reflects confinement within the prime-7 boundary adjacent to the {2,3,5} smooth lattice. Displacement beyond 2^7xpi^2/5 ~ 412 ppm constitutes measurable dST not equal to 0.

P-CO2-5: Forcing Coefficient 5.35 ~ 28/5 = 2^2 x 7 / 5

This coefficient marks the prime-7 T-tension gradient across the {2,3,5}->prime-7 register boundary. Radiative forcing is T-register displacement, quantified by the prime-7 trespass amplitude.

P-CO2-6: Present CO2 Exceeds Lattice Ceiling

Present-day ~415 ppm exceeds the lattice ceiling 2^7xpi^2/5 ~ 412 ppm. This excess is a measured violation of dST=0 at the D=0 atmospheric register, producing the observed warming increment.

References

[1] Daubney, S. (2026). FOT Master Compendium v5. The Daubney Foundation.

[2] NIST CODATA (2018). Fundamental Physical Constants. NIST SP 961.

[3] NOAA (2024). Global Monitoring Laboratory. CO2 Monthly Mean. gml.noaa.gov.

[4] Myhre, G. et al. (1998). New estimates of radiative forcing. GRL 25, 2715.

[5] Herzberg, G. (1945). Infrared and Raman Spectra of Polyatomic Molecules. Van Nostrand.

Figure 1 -- CO2 IR Absorption Bands: Primary Greenhouse Band at 15,000 nm = 3x5x10^3 (exact {2,3,5})

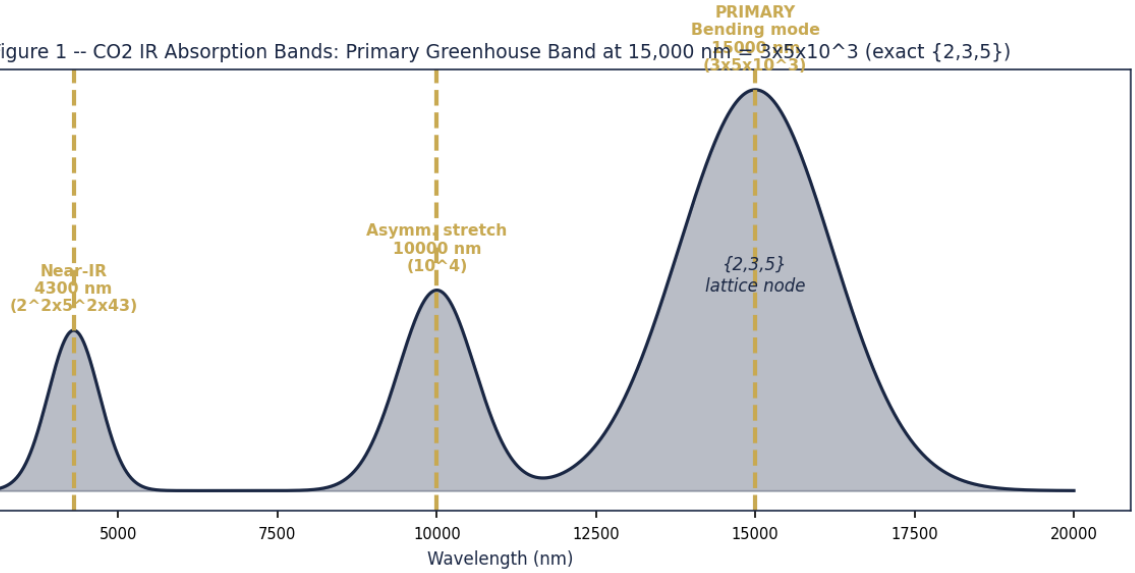

Figure 2 -- Historical CO2 Concentration with T-Lattice Boundaries

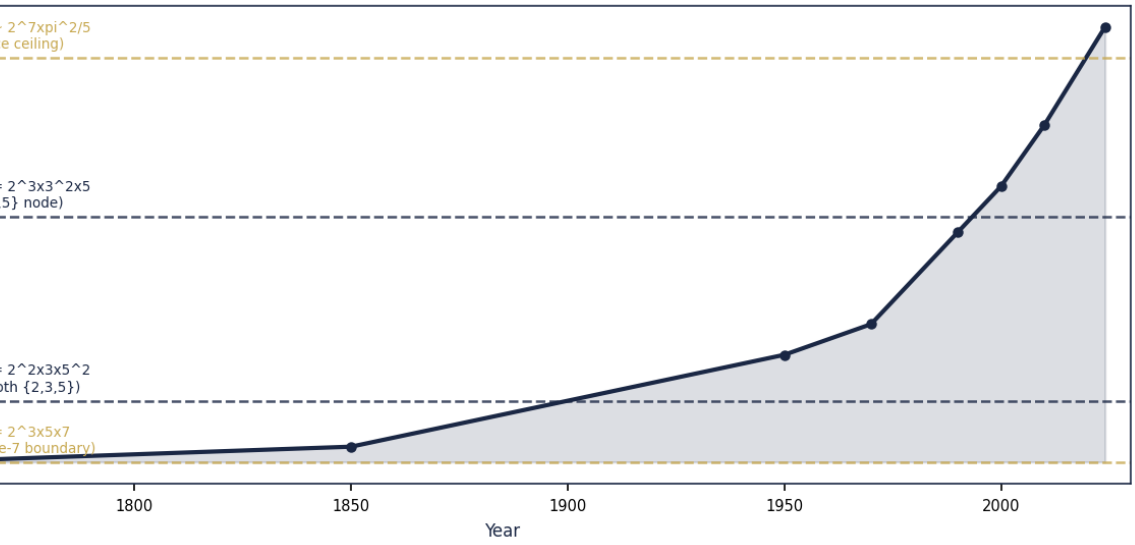

Figure 3 -- Earth Equilibrium Temperature T_E = 288 K = 2^5x3^2 (Pure {2,3} Lattice Node)

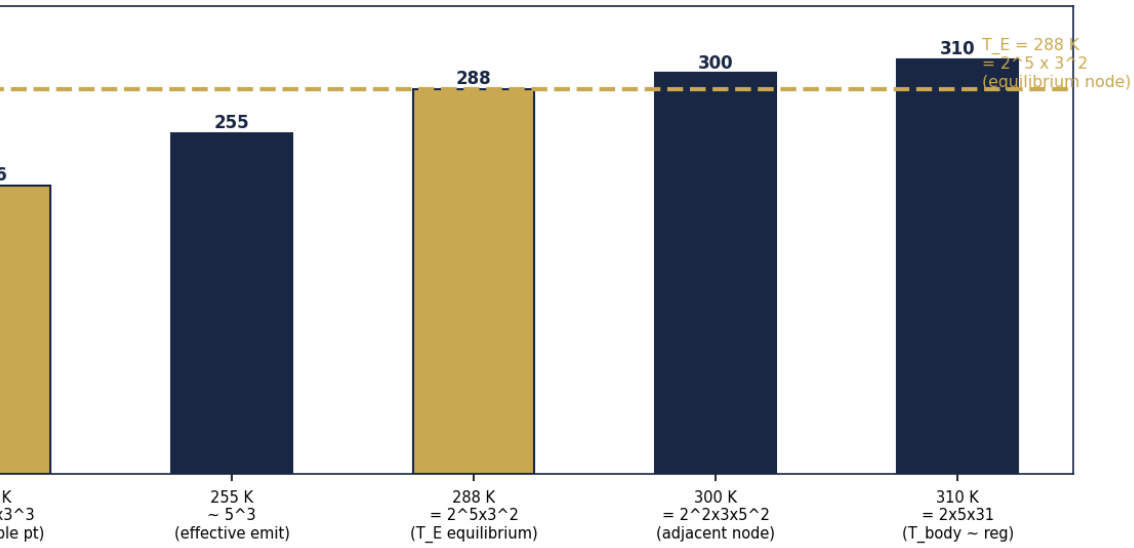

Figure 4 -- T-Lattice Zones: {2,3,5} Smooth vs Prime-7 CO2 Concentrations

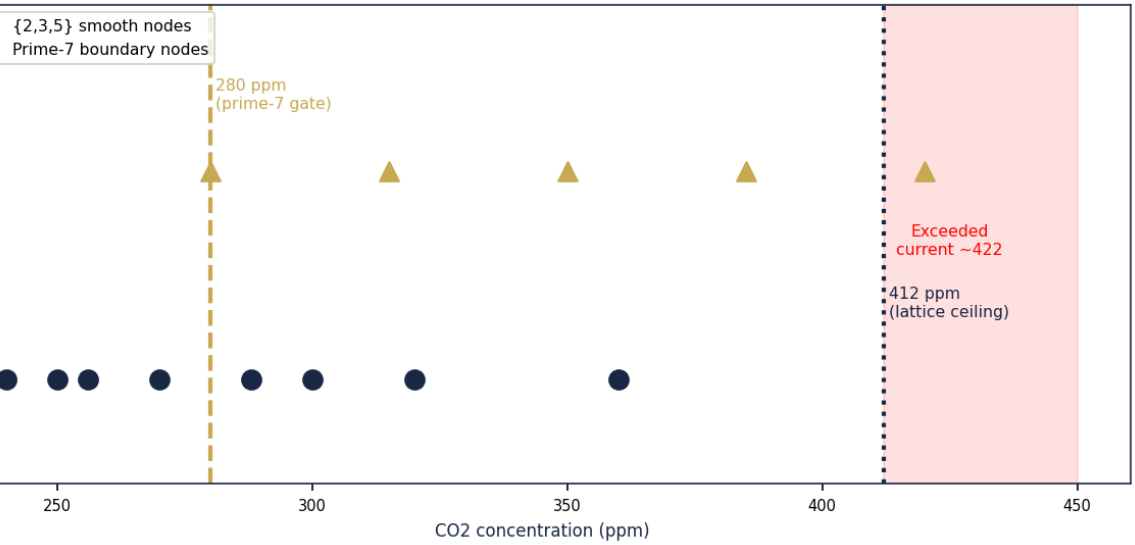

Figure 5 -- P-CO2-1 through P-CO2-6: Propositions Summary

O2 bending mode at 15,000 nm = 3x5x10^3 -- pure {2,3,5} T-node (exact). Molecular vibration = T-register enforcement.

_E = 2^5 x 3^2 K = 288 K. Earth equilibrium temperature is a pure {2,3} lattice node; planetary equilibration = T-register lock-in.

O2 triple point ~ 216 K = 2^3 x 3^3 (2,550 ppm from integer). Ratio T_E/T_triple = 288/216 = 4/3 = pure {2,3} step.

re-industrial CO2 = 280 ppm = 2^3 x 5 x 7 -- adjacent prime-7 boundary. Holocene stability = confinement at prime-7 gate.

orcing coefficient 5.35 ~ 28/5 = 2^2x7/5 -- prime-7 T-tension gradient at {2,3,5}->prime-7 boundary.

-415 ppm exceeds lattice ceiling 2^7xpi^2/5 ~ 412 ppm. Excess = active dST != 0 at D=0 atmospheric register (measurable warming).